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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,715	04/18/2001	Igor Bragin	LMPY-12310	8806

7590 12/04/2002

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EXAMINER
NGUYEN, TUAN N

ART UNIT	PAPER NUMBER
2828	

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/838,715	BRAGIN ET AL.	
	Examiner	Art Unit	
	Tuan N Nguyen	2828	

-- The MAILING DATE of this communication app ars on the cover sheet with th correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/18/01* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Paul Ip
PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4, 5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim benefit continuing data of 60/198058 - 04/18/200.

Information Disclosure Statement

2. The information disclosure statement filed June 19, 2002 and June 20, 2002 have been placed in the application file, and the information referred to therein has been considered as to the merits. See the attached, initialed copies.

Drawings

3. New corrected drawings are required in this application because it is not acceptable to the draftsperson, see the Notice of Draftsperson drawing review. The figures are not labeled as required by 37 CFR 1.83(a). The corrected drawings are required in reply to the Office action, to avoid abandonment.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-49 are rejected under 35 U.S.C 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a discharge circuit for pulsed gas laser system, comprising: *a pair of electrodes; a capacitance coupled to a first electrode of electrodes, said capacitance configured to store charge; and a load coupled between said first electrode and said capacitance.* " The relationships between the elements are unclear and there is no structure and insufficient relationship such as the lack of (pulse generator, type of capacitance in relation with the Ground...) to conform *a discharge circuit for pulsed gas laser system*, which renders the claims vague and indefinite. In addition, it is not paten table by just claiming RC or RCL circuit layout in a variety of configuration, because it is well known in the art, see attached reference Fundamentals of Electrical Engineering, 1985, p286, 289. As an electronic engineer working in the R&D for 12 years, it is well known that capacitor use in parallel of a load intend to stabilize the power the load, resistor putting in parallel or series intends to regulate amount of current or potential fall within that given circuit. In addition, different type of capacitor (polar / non-polar) is use based on its application –such as high voltage application when arcing occurs. Claims 2-15 are rejected base on the same reason.

Claim 16 recites "A discharge circuit, comprising: a pair of discharge electrode,...; *a peaking capacitor coupled to said pair of discharge electrode,...; a resistor coupled between a first electrode of between a first electrode and peak capacitor; and a ground terminal coupled to said peak capacitor and a second electrode of said pair of discharge electrodes; wherein said pair of discharge electrodes, said peak capacitor and said resistor form an electrical loop*". Similar to claim 1, it is also unclear how the resistor couple (series, parallel) in relation with the

peaking capacitor (polar / non-polar) to conform *a discharge circuit; the* peaking capacitor (polar / non-polar) is important in relating with the ground, which render the claims vague and indefinite. Claims 17-20 are rejected base on the same reason.

Claim 20 recites "...wherein said resistor provides an active load between said peaking capacitor and *said another one* of said of said pair of discharge electrodes." The claim is unclear as to "another one" ... Is it claiming another second pair of electrode to the circuit?

Claim 21 recites a "a discharge circuit for use in a laser system, comprising: *a pair of electrodes...;* a first peak capacitance *coupled to said electrodes...;*a second peaking capacitance different from first peaking capacitance *coupled to one of said pair of electrodes...;*a resistor *coupled between said second peaking capacitance and one of said pair of discharge electrodes;* and a ground terminal *coupled to said first and second peaking capacitor; wherein said pair of discharge electrodes, said first and second peak capacitors and said resistor form an electrical loop* . " Similar to claims 1 and 16, there is no laser system and the relationships between the elements are unclear and there is no structure and insufficient relationship to conform *a discharge circuit for use in a laser system*, which renders the claims vague and indefinite. Claims 22-24 are rejected base on the same reason.

Claims 25, 37, and 38 recites a method similar to claims 1, 16, and 21 relate to the circuit device. The relationships between the elements are unclear and there is no structure and

insufficient relationship, which renders the claims vague and indefinite. Claims 26-36 are rejected base on the same reason.

Claim 39 recites "an excimer or molecular fluorine laser, comprising: a discharge chamber...; a pulsed discharge circuit; a plurality of electrodes...; a resonator..., wherein the pulse discharge circuit comprises: a main storage capacitor; a pulse compression circuit; a set of peak capacitors...; a resistor component." There is insufficient structure and relationship between the elements to conform an excimer or molecular fluorine laser, it is unclear as to the pulse compression circuit comprising, and there insufficient structure relationship between the elements that made up the pulsed discharge circuit which renders the claims vague and indefinite. Claims 40-45 are rejected base on the same reason.

Claim 46 recites a method similar to claim 39. There is insufficient structure and relationship between the elements to conform an excimer or molecular fluorine laser, which renders the claims vague and indefinite. Claims 47-49 are rejected base on the same reason.

Claim Rejections - 35 USC § 102

6. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-49 are rejected under 35 U.S.C. 102(b) as being unpatentable over Myers et al. (US 6128323).

With respect to claims 1-4, 10, 15, 16, 21, 25-28, 36, 37 and 38 Myers et al. (US 6128323) shows in figures 6, 10, a narrow-band high rep rate excimer laser, with a pair of electrodes (F 8b: 83,84), with a peaking capacitance coupled to first electrode of said pair electrode configured to store charge (F 8b: 82, Cp), and a load coupled between first electrode and said capacitance (F 8b: diode, resistor, Lp) and ground. Since claims 1, 16, 21, 25, 37, and 38 recite the same or identical elements/limitations it is inherent to use Myers et al. (US 6128323) to recite the method of manufacturing optical pickup apparatus, product by process.

With respect to claims 5, 6, 7, 17, 22, 29, 30 figure 8a (LASER CHAMBER: gas circulation fan) shows a cooling unit cooling the laser chamber comprising the resistor, capacitor and electrodes and an encapsulated volume with circulating oil (Col 3: 20-25, Col 15: 10-15).

With respect to claims 8, 9, 19, 24, 31, 32 figures 3 and 6A shows gas discharge area between the pair of electrode (F 3: 6a, 6b, 56; F 6: 83, 84, 56a), the gas discharge area is configured to provide ionization of a laser gas during charging of the capacitance (Col 13: 40-50; F 6: 56a), and the gas discharge area includes high pressure laser gas come from the blower (F 6: 10a).

With respect to claims 11, 12, 20, 33, 34 figure 8B (LASER CHAMBER) shows pair of electrodes, capacitance and load form an electric loop. In addition the load includes an active load (Diode, Resistor, Lp).

With respect to claims 13, 14, 18, 23, 34, 35 figures 8A, 8B, 8C show in (POWER SUPPLY, COMMUTATOR sections) a power generator provide power to and charging the peaking capacitance and the power generator includes a high voltage pulsed power generator (F 16: #20, 521)(Col 13: 40-50, Col 14: 15-40).

With respect to claim 39, Myers et al. discloses a discharge chamber filled with gas mixture including halogen component (F 16: #514); a pulse discharge circuit comprising: (a) main storage capacitor (F 8a: #32, #82, COMMUTATOR, COMPRESSION HEAD), (b) a pulsed compression circuit (F8a: COMPRESSION HEAD; F 8b: #60), (c) a set of peaking capacitor between pulse compression circuit and main discharge electrodes (F8b: #62, #82 - Cp), (d) a resistive component coupled between the set of peaking capacitors and discharge electrodes (F8b: Laser Chamber, B2-2); a plurality of electrodes (F3: 6a, 6b, 56) including a pair of main discharge electrodes (F8a: 83,84) an at least one preionization electrode (F6a: 56a) energizing gas mixture. Since claim 46 recites the same or identical elements/limitations it is inherent to use Myers et al. (US 6128323) to recite the method for providing an electrical pulse to a discharge electrodes of an excimer, product by process.

With respect to claims 40-43, 47 Myers et al. shows a second set of peaking capacitors between the pulse compression circuit and main discharge electrodes (F 8b: #62, Cp-1), the electrical connection between the first set of peaking capacitors and the discharge electrodes has a different inductance than a second electrical connection between the second set of peaking

capacitor and the discharge electrodes (F 8b: #60, #80), where resistive component includes a resistor and variable inductor (F 8b: B2-2, Laser chamber, Lp-1).

With respect to claims 44, 45, 48, 49 figure 8b shows a resistive component is coupled in series between the set of peaking capacitors and the discharge electrodes (F 8b: #81, 82, 83, 84), and a resistive component coupled in parallel with the set of peaking capacitor (F8b: B2-2, 82).

Citation of Pertinent References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show the product of the instant invention.

Ohmi et al. (US006282221B1), Matsunaga et al. (US006400741B1), Nakatani et al. (US005305339A), Rothe (US 4975921), Muller-Horsche (US005247531A), Klopotek (US 4797888), Bernitz et al. (US005343125A), Robbins (US 4201949), Fahlen et al. (US 445194), Taylor et al. (US 5309462), Eden et al. (US 4606034), Minamitani et al. (US 5708676), Hongu et al. (US 5777867), Basting et al. (US006005880A), Yoshida et al. (US006389049B2), Chung et al. (US005147995A) disclose excimer laser oscillation apparatus and electrode discharger.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (703) 605-0756. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8592 for regular communications and (703) 746-8592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Tuan N. Nguyen

November 21, 2002

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